University of Nebraska Omaha

University of Nebraska at Omaha
DigitalCommons@UNO

Documents and Reports | Arthur Paul Afghanistan Collection

2-22-1897

The southern borderlands of Afghanistan

A. H. McMahon, Captain

Follow this and additional works at: https://digitalcommons.unomaha.edu/afghandocsreports


Part of the Geography Commons, and the International and Area Studies Commons

Recommended Citation
McMahon, A. H. The southern borderlands of Afghanistan. London: Geographical Journal, no. 4 (April 1897), p. 393-415. 1 map.

This Document is brought to you for free and open access by the Arthur Paul Afghanistan Collection at DigitalCommons@UNO. It has been accepted for inclusion in Documents and Reports by an authorized administrator of DigitalCommons@UNO. For more information, please contact unodigitalcommons@unomaha.edu.

Dr. C.C. and Mabel L. CRISS LIBRARY

MCMAHON

AFGHANISTAN

1897

Afghan
Coll.
DS
365
M36
1897

has brought all these things to our minds by visiting the same places. The two most interesting of his photographs were those of the Murchison falls. He has done a great deal more than this, for he has explored countries hitherto quite unknown, especially the highlands beyond the Victoria Nile and other upland countries further to the eastward. We also have to thank him for his interesting photographs, and especially for that magnificent display, the results of his rifle, which has been arranged in the other room—as fine a show of heads as I have ever seen. It is a great pleasure to us all to know that the Queen has commanded both Major Cunningham and Lieut. Vandeleur to proceed to Windsor Castle to-morrow, to receive from her Majesty's hands those distinctions which they fully merit and have so nobly won.

It is for us on this occasion to return our warmest thanks for what they have done in exploring work, and to Lieut. Vandeleur our hearty thanks for the interesting paper he has read to us.

LIEUT. VANDELEUR'S MAP.—The map has been reduced from Lieut. Vandeleur's original drawing. The route from Kampala to Munia is the same as the railway route surveyed by Captain Pringle, and published by the Intelligence Department (see *Journal*, vol. ii., 1893, p. 112). Other additions have been made from Dr. B. Hassenstein's maps, published in 1892 and 1895 in *Petermanns Mitteilungen*.

THE SOUTHERN BORDERLANDS OF AFGHANISTAN.*

By Captain A. H. McMAHON, C.I.E.

I AM going to take you along the southern border of Afghanistan from the Gomal river to the Persian frontier, and will endeavour to describe the country which forms the southern portion of Afghanistan and the northern portion of what is commonly known as Baluchistan.

I purpose to confine myself chiefly to a brief geographical description of the countries traversed by the Baluch-Afghan Boundary Commission, which, as one of the results of the Durand Mission to Cabul in 1893, recently delimitated and demarcated the boundary between the territory belonging to the Amir of Afghanistan and that under the government of India, from Domandi, a place on the Gomal river, to Koh-i-Malik-Siah, on the Persian border. The Koh-i-Malik-Siah mountain marks the southernmost point of the boundary between Afghanistan and Persia, as agreed upon by those two governments, after the Seistan Mission of 1872, when General Sir Frederic Goldsmid, assisted by General Sir Richard Pollock, acted as arbitrator between those governments.

The Baluch-Afghan Boundary Commission started in March, 1894, and by June, 1896, succeeded in laying down the boundary-line to Persia. The length of this line from the Gomal to Persia is over 800 miles, and it took us nearly two full years to complete it. To give a detailed description of over 800 miles of country, or of the varied personal incidents of the two years' wanderings of the mission in that

* Paper read at the Royal Geographical Society, February 22, 1897. Map, p. 472.

country, is impossible in the small compass of this paper; and I can only give the general characteristics of the country, with a few remarks here and there on places of more than ordinary interest. In our wanderings we traversed many tracts of country hitherto seen by only a very few Europeans, and again large tracts hitherto unvisited by any Europeans at all.

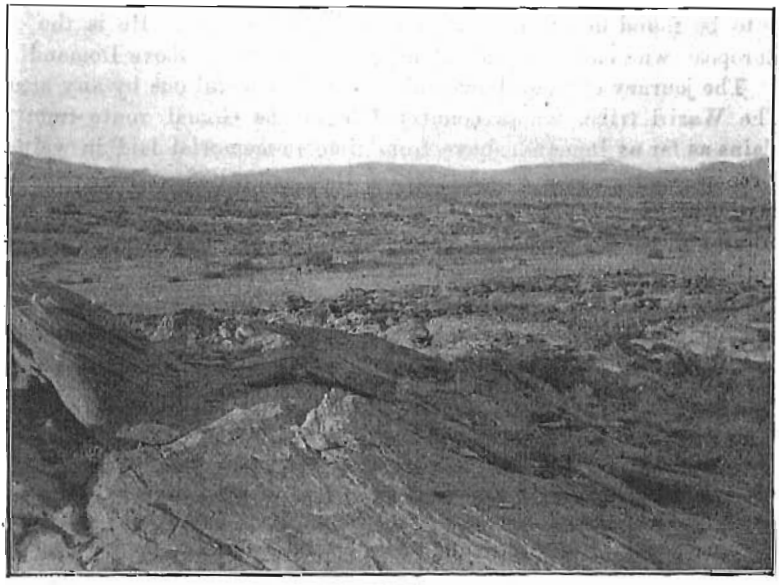
The general characteristics of the whole country we traversed are, I may say, barren dryness—barren hills and mountain ranges and vast open plains, where, in most cases, either want of water or the unsettled state of the people has prevented the cultivation of the soil. Rocks and stones, varying from the size of the huge gigantic boulders on the mountain-sides to that of the small pebbles and shingle of the strands of the dry torrent beds, cover the greater portion of the surface of the country, while another large portion is given up to deserts of deep soft sand. Throw in here and there springs of water of widely varying medicinal properties and every degree of saltness, and you have a rough general idea of the country I am describing. To those who indulge in varied mineral waters, and would like to test the varying effects of petroleum, sulphur, ammonia, potassium, either mixed or by themselves, I can recommend them to pay a visit to that country. But they must remember that, unfortunately, none of the springs are labelled, and so you don't know until afterwards what you are drinking.

However, I must not lead you for a moment to suppose that this country has no redeeming features. Refreshing green oases here and there, sometimes in the form of green wooded valleys with rippling streams of pure water, sometimes in forest lands along the high mountain-tops, sometimes in the form of extensive tracts of rich cultivation in wide valleys and plains, break the monotony of the vast wastes around, and afford a relief to the eye and a pleasure to the senses which none but travellers in that country can fully realize. Then, again, the clear, dry, sparkling atmosphere, the deep blue cloudless skies of the greater part of the year, and the almost boundless horizons produce feelings of exhilaration and a sense of freedom which go far to make up for the shortcomings of the country in other respects. Last, but not least, we find the inhabitants a fine manly race, whose love of independence is as rugged as their hills, and whose stubborn bravery is unquestionable. With fair complexions and splendid physique, they form for the most part a magnificent race of men.

On April 5, 1894, our mission reached Domandi, a dreary uninhabited spot 3500 feet above sea-level, at the junction of the Gomal and Kundar rivers, the starting-point of the boundary-line which we were to lay down. Our party consisted of six British officers: Captain R. J. Mackenzie, R.E., was the survey officer; Captain C. Griffiths, 16th Bengal Cavalry, and Captain F. G. Fowler, 1st Baluches, commanded the cavalry and infantry escort; Surgeon-Captain F. W. Gee was our

medical officer; and Lieut. R. A. E. Benn came as intelligence officer. We had an escort of 150 infantry and 60 cavalry. Our whole party, including escort, survey party, office establishment, and tribal chiefs and followers, amounted to about 1000 men and 600 animals, *i.e.* camels, horses, and ponies. The Afghan commissioner, who subsequently joined us, brought an escort and camp following amounting to much the same number as ours. The Afghan commissioner was Sardar Gul Mahommad Khan, a near relation of the Amir of Afghanistan.

Domandi deserves a few words of mention. Here the Gomal and Kundar rivers meet and form one stream under the name of the Gomal,



KHORASSAN PLAINS, LOOKING TOWARDS DOCHINA AND KATAWAZ.

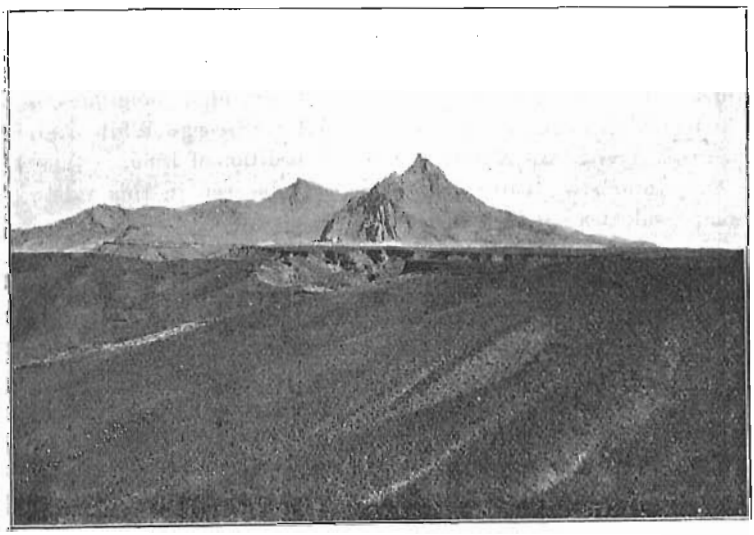
which, some 80 miles below Domandi, after cutting its way through narrow gorges through the Suleiman range, issues out on to the Derajat plains of the Punjab. The Gomal has for many ages been a great trade route between Afghanistan and India. The Ghilzai and Lohani tribes, both of whom are commonly known under the name of Powindahs, come down in their thousands year by year in the autumn from the highlands of Afghanistan by this route to India, bringing with them their women and children, and huge herds of camels, sheep, and goats. Over 70,000 camels are sometimes known to be thus brought down in one season. The various tribes which compose the great Ghilzai and Lohani clans, *i.e.* the Suleiman Khels, Nasirs, Kharotis, Mian Khels, and others, after the manner of Afghan tribes, are mostly at feud one with another, and so they find it more convenient to avoid each other on their march up

and down the Gomal. They have, therefore, a regular order of going fixed by long-established custom, and according to this order they move down tribe by tribe each autumn from the highlands of Afghanistan to the plains of India. When the heat of the Indian spring sets in, they all turn their faces homewards, and tribe by tribe, in the old-established order, they wend their way up the Gomal again to the cooler regions of their summer highlands, which they know by the general name of Khorassan. Above Domandi, about half of them continue up the Gomal river, and the other half takes the more western route along the Kundar river. Lieut. Broadfoot, in 1839, travelled in disguise from Ghazni with a Powindah Kafila to India, and an account of his adventurous journey is to be found in the earlier records of this Society. He is the only European who had ever been along the Gomal route above Domandi.

The journey of these Powindahs is not a peaceful one by any means. The Waziri tribe, whose country fringes the Gomal route from the plains as far as Domandi, have from time immemorial laid in wait for these passing caravans, or kafilas, as they are called, and year by year have exacted their tribute of blood and loot from any caravan that, from inferior numbers or want of precautions, may have offered an opening to their ever-watchful enemies.

At the time of our stay at Domandi in 1894, the Waziris were making themselves particularly objectionable. The yearly exodus of the Powindah tribes from India to Afghanistan was at its height, and kafila after kafila of these tribes used to pass our camp, all with the same tale of woe—so many men killed and wounded at one place on the road, and so many camels carried away at some other place by the hated Waziris. To see these large kafilas passing, as we did, day after day for many weeks, was a very interesting sight. First of all came their advance party of fighting men, armed to the teeth with guns, pistols, swords, and shields, those on horseback often armed with a long lance in addition to their other martial equipment. With these march their musicians with drums and sirinais, which are a rather pleasing kind of reed instrument. Every now and then one of the footmen breaks into a dance, singing at the top of his voice, and spins round and round waving his sword and rifle; another and another join in, and they dance madly round until exhausted or the rough nature of the ground makes further dancing impossible. On approaching the place where they intend to camp, music and dancing are renewed with redoubled vigour, and often continued until the ladies of their household, who are following behind, have arrived, and have erected the tents and arranged the belongings of their lords and masters. After the fighting men come long strings and strings of camels, donkeys, and cattle, sheep and goats, accompanied by more fighting men, and crowds of women and children. All except the men are laden with something—the camels with heavy loads of merchandize or household belongings, others with gaudier trappings carrying

the women folk of the wealthier men; and you see women staggering along, one with a child on her back, another with a lame sheep under her arm; children carrying smaller children or kids or lambs. Then come the donkeys and bullocks, some with loads, others with children and babies roped face upwards on their backs. One by one, as they reach the camping-ground, the women and children unpack their belongings and set up their tents; the latter is not a difficult process, as it only consists of setting up four sticks and draping coarse black goathair blankets on the top and round the sides. Then the boys and a guard of well-armed men drive off the camels and flocks to graze on the adjacent mountain-



ZARMELAN PLAIN AT DOMANDI.

sides, while the remainder lie down in the shelter of trees and rocks and lazily watch their women folk laboriously fetching water and cooking the mid-day meal.

There is one feature about the Powindahs' return journey to Afghanistan which makes it preferable, if you have the choice, to march with them on their autumn march to India rather than with them, as we did, on their return march to Afghanistan. What I mean is this, that all those who die on the march down or during their winter stay are buried, but many of them are dug up again on the return journey and carried home to be interred in Afghanistan. If you see a camel coming along with long suspicious-looking boxes on his back, you know they contain some defunct Powindah making his final journey to his last resting-place.

We stayed at Domandi some three weeks, and while there our presence ensured the protection of the passing kafilas, and we ourselves

were fortunately left alone by the marauding Waziris, who were too busily and more profitably employed in attacking and looting the Powindah kafilas further down the Gomal river. In this we were fortunate, as our small camp would have fared ill in a fierce, sudden night attack of the nature which was made on the brigade under General Turner a few months afterwards at Wano, a place only some 30 miles from Domandi, during the subsequent Waziri expedition, when a force was sent into their country. The Waziris did, it is true, some while after our departure from Domandi, send, as a sort of afterthought, a large picked raiding-party after us; but we had by then got too far from their country, and through want of food they had to return before getting within striking distance of us.

We marched thence up the Kundar river, for the most part a dry river-bed in a confined narrow valley between high mountains, some 9000 feet high. The force under General Sir George White marched down this river in the Kundar Sherani Expedition of 1889.

Very interesting natural phenomena to be seen in this valley are the mud volcanoes at Khut Kanda.

These curious volcanoes are situated on a neck of high ground on the south bank of the Kundar river. We saw some ten or more craters, large and small, in activity, and all round were a large number of dry craters of inactive volcanoes. These craters vary from 2 to 30 feet in diameter inside. It appears that, while the active craters are constantly drying up and become inactive, new active ones suddenly make their appearance close by. These volcanoes are of a thick liquid mud, which comes bubbling up from below, and every now and again surges over the crests of the craters. The mud deposited by this overflow forms into the hard rock of which the outer slopes of the craters are formed.

After some two months in the Kundar valley, where the heat and bad water seriously affected the health of our camps, we gradually proceeded onwards up the Kundil and Sharan Toi rivers, ascending into higher and higher levels until, by the end of June, we reached the highlands of Khorassan.* Here we found ourselves in country hitherto unvisited by Europeans, up in high open sandy plains varying from 6000 to 7000 feet above the sea—in the summer grazing-grounds of the Ghilzai Kakar tribes.

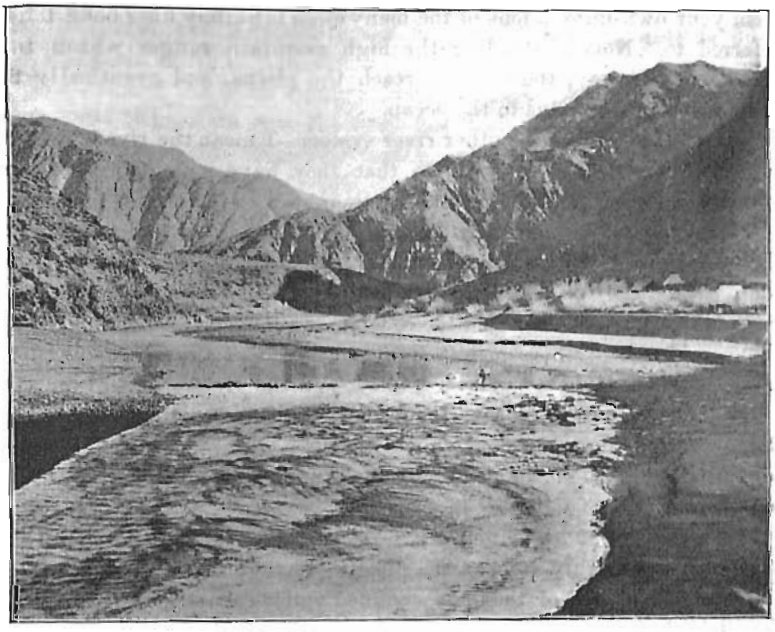
These wide plains are intersected here and there by long mountain ranges of no great height above the level of the plains, but some 8000 to 9000 feet above sea-level. Here hill and plain alike are covered thickly with a small bushy plant about 2 feet high, called by natives tirkha, and known to botanists as southernwood, or artimisia. Its pleasant perfume pervades everything, and its forms the staple grazing

* Major Ivar MacIvor, C.I.E., Political Agent, Zhob, traversed a portion of this tract as far as Tirwa in 1892.

food of the huge flocks of camels and sheep which the Ghilzais and Kakars bring up here in the summer months.

We have now reached a tract of more than ordinary interest, as we have ascended to the western watershed of India—I mean the watershed which divides the drainage flowing into India on the south and east from the drainage flowing into Afghanistan on the north and west. You will see, from the map, that all the water that flows from here to the north and west flows into Afghan lakes and rivers, while that to the south and east eventually, by the Gomal and other rivers, joins the great river Indus.

Both these river systems differ widely in character one from the



LORA RIVER AT ITS JUNCTION WITH THE SHIRTO RIVER.

other, and both present very remarkable features seldom to be found elsewhere. If you look at the rivers flowing towards India, you will see that their general direction is at right angles to the lines of mountain ranges which separate them from India, and which they have had to cut through one by one before reaching the lower levels of the Indian plains. In cutting through these ranges these streams have formed deep, narrow gorges, which, in each successive range, become deeper and deeper as the level of the river-bed sinks lower and lower below the level of the crest of the range. Thus, when we come to the last range of mountains, which are commonly known as the Suleiman range, we find the drainage flowing through narrow gorges of almost

stupendous depth. It is hard to imagine anything finer than some of these gorges. Some of them, such as those in the Vihowa and Kaha rivers, and especially those in the streams known as the Chuhar Khel, Zao and Gat Dhanas, are really marvellous gorges, wild and gloomy in the extreme. They are so narrow at the bottom that you can often touch both sides with your hands. Their walls of massive limestone rock rise perpendicularly upwards for several thousand feet. In places the sky is seen through a small slit, as it were, overhead; in other places, the walls overhang and so nearly meet overhead, that the sky is invisible from below. It is naturally impossible to give any real idea of one of these stupendous gorges in a photograph, but I will now show you a photograph of a very much smaller one, from which you can perhaps form your own impressions of the many other infinitely finer ones I have referred to. Notwithstanding the high mountain ranges which have stood in their way, these rivers reach the plains, and eventually find their way by the Indus to the ocean.

Now let us look at the other river system—I mean the rivers flowing into Afghanistan. You will see that they have not had the same difficulties to contend with in finding their way to lower levels, as they flow parallel, and not at right angles, to the mountain ranges. So far all has gone well with them, but not for long. All well-conducted rivers should reach the sea; none of these ever do. Those to the north get no further than the Ab-i-Stada lake, a wide sheet of water over 7000 feet above sea-level. Others meet a similar fate, but at a lower level, in the Lora Hamun; while the greater number join the Helmand, which, after a long journey, deserving a better ending, comes at last to a standstill in the lakes and swamps of Seistan. All these lakes are as salt as salt can be, and many of them, like the Ab-i-Stada and God-i-zirreh, are enclosed in wide margins of solid dry salt.

To revert to the highlands of Khorassan. We reached there in June, 1894, and thoroughly enjoyed the pleasing change of these cool breezy plains after the heat of the deep confined valleys we had been in. By the end of September, however, we began to find that the pleasant coolness of the summer had changed to severe cold. Our nomad friends the Kakars and Ghilzais had all departed east and west towards their warmer winter quarters, and none but the few resident Lowanas were left, and we ourselves were glad to leave. The winter cold in these parts is very severe, and the wide plains are swept by a cold wind, which, if the natives are to be believed, is death to the unwary traveller who may be caught by it away from shelter. The large heaps of whitened bones we found here and there near the marks of old Lowana encampments marked the places where whole flocks of sheep and goats had been frozen to death during the exceptionally severe snowfall of the preceding winter.

Descending from these highlands by various deep river valleys, and

passing from the country of the Ghilzais and Kakars into that of the Atchakzai and other Durani tribes, we got into the Kadanai valley. It was now late in December, the cold was very severe, and our thermometers registered as low as 8° below zero. It became a serious question whether we would be able to get over the high Toba mountains which lay between us and the Chaman plain before the heavy winter snow set in, and snowed us up for the winter. As it was, we ran it rather fine, for we only succeeded in getting our camp over the high Kanjasu pass the evening before heavy snow set in and entirely closed the passes we had just used. The following night, although we were encamped in a deep, narrow sheltered valley, the cold was intense, and no less than eight of our baggage camels were frozen to death. This hastened our movements, and we lost no time in getting down into the plain north of Chaman.

We reached the little frontier cantonment of Chaman on Christmas Eve, 1894, where we saw the first new white faces we had seen for exactly nine months. Needless to say, our Christmas was made a very pleasant one by the kind hospitality of the Chaman garrison.

Those who visit Chaman generally think they have reached the end of the world, and can hardly realize the feelings with which we viewed that dreary little station. To us it seemed, after our wanderings in the wilds, a veritable metropolis of civilization.

The Afghan commissioner, Sardar Gul Mahommad Khan, was now succeeded by Sardar Mahommad Umar Khan, the chief of the great Nurzai Durani tribe.

Proceeding southwards from Chaman, we completed boundary demarcation by June, 1895, as far as Ghwazha. From Domandi to Ghwazha a boundary-line of some 360 miles had now been demarcated.

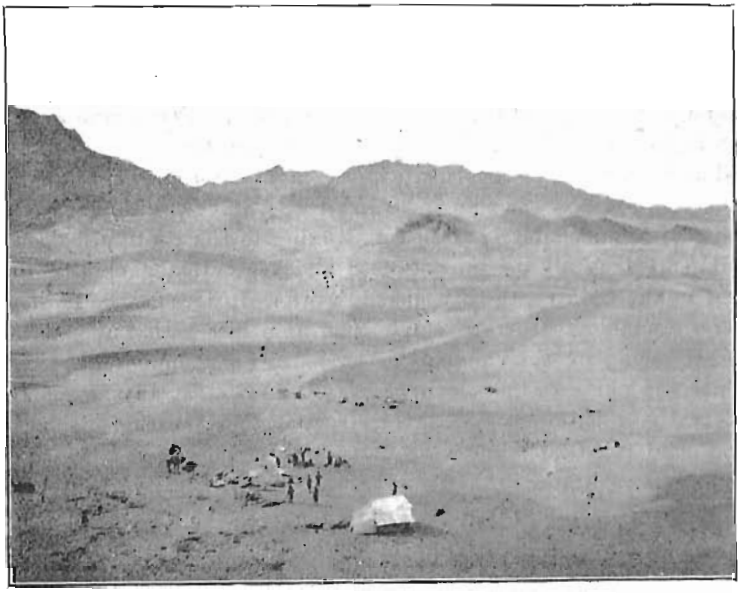
The summer heat put a stop to any attempt to do further boundary work in the deserts beyond. Work was suspended, and the mission temporarily dispersed. We met again in the following January, 1896. Many changes had taken place in the composition of the British mission, and our party now consisted of Captain H. F. Walters (24th Baluches) and Lieut. F. C. Webb Ware (7th Bombay Lancers), who were in command of the infantry and cavalry portions respectively of our escort. Surgeon-Captain F. F. Maynard came as our medical officer, zoologist, geologist, botanist, and meteorologist. Mr. G. P. Tate, a Fellow of this Society, took Captain Mackenzie's place as survey officer. With survey establishment's escort, tribal headmen, and followers, we numbered altogether some 650 men, with 750 camels and 100 horses. The Afghan commissioner and his camp were the same in numbers and composition as before.

By the end of February, notwithstanding a heavy snowfall on the mountains, we had finished boundary work along the Khwaja Amran and Sarlat ranges to the south of Shorawak, and entered near Nushki

the vast plain which fringes the Baluchistan desert. As far as this point from Domandi, the tribes concerned on both sides of our boundary-line had been Pathan and Afghan tribes. Beyond this point the tribes on both sides are Baluches and Brahuis. Before going further, I must say a few words about a very curious physical feature in this neighbourhood, which may be of interest to you. To explain it, I must refer to a severe earthquake shock which, on December 20, 1892, was felt over a large area of Baluchistan, during which the railway line between Quetta and Chaman, at a place near the Chaman end of the great Khojak tunnel, but fortunately outside that tunnel, was very curiously damaged. The rails were distorted, and, to put the matter briefly, the distance between Chaman and Quetta was lessened by no less than 2½ feet. A fissure in the ground was found to run across the railway line at this place, and this fissure, running along a depression in the ground along the foot of the Khwaja Arman range, was then traced to a short distance on either side of the railway line.

It so happened that, when our boundary work made us more carefully examine this country, we found that a well-marked line of depression or indentation in the ground was traceable at the edge of the plain near Murghachaman, some 18 miles north of Chaman. Following this line, or, as I may call it, this earthquake crack, we found it to run some 18 miles in a well-defined line to the very place where the earthquake fissure had damaged the railway line in 1892. Thence it ran on, gradually ascending diagonally the slopes of the Khwaja Amran range until it actually cut the crest of the main range near its highest peak. Descending again into the Spintizha valley, it began again to ascend diagonally the slopes of a continuation of the Khwaja Amran range. Cutting this range in a similar manner, it descended to the Lora river, and, crossing that river, ran along the whole length of the foot of the Sarlat range to Nushki. Beyond this point we were unable to follow it. The total length of this wonderful earthquake crack, which we carefully surveyed, was no less than 120 miles. It is a well-defined broad line of deep indentation, in places as clearly defined as a deep railway cutting. Along the whole course of it are to be found springs of water, cropping up here and there. Both from the presence of water and from its forming a short cut across mountain spurs, this crack is largely used as a thoroughfare. We found that the old greybeards of the tribes residing in the neighbourhood all knew of its existence. They told us that during their lifetime, on some three occasions after severe earthquake shocks, deep fissures had appeared along this line, and that they had had similar accounts handed down to them by their fathers. After one of these occurrences, the water-supply of the springs along the crack had, they said, largely increased. I have roughly marked the position of this crack on the sketch-map. I may note that if the tunnel through the Khwaja Amran range had been bored, as first proposed,

at a point considerably south of the Khojak, this earthquake crack would have cut through it near the centre, thus enabling many valuable but possibly expensive observations to be made. This crack seems to mark the line of a gigantic geological fault. All the rocks on the east appear to be sedimentary, while those on the west appear to be igneous. In fact, as far as the Persian border on the west of it, we found nothing but igneous rocks. I am told the length of this fault-line exceeds that of any fault-line as yet discovered on this Earth. Whatever it may be, this earthquake crack or fault-line, whichever you prefer to call it, is a very



SAND DESERT NEAR AMIR SHOH.

remarkable phenomenon, and deserves the serious notice of geologists and seismologists.

As I have mentioned before, we found ourselves at the end of February, 1896, near Nushki, with the vast Baluchistan desert before us. The prospect was not reassuring. It was difficult to obtain any reliable recent information about the country before us, and the only opinion we could get from natives who pretended to know something of the country, was that it was late in the year to attempt to cross the desert, and that there was even less water there than usual owing to the total absence of rain for upwards of a year and a half. The Afghan Boundary Commission which delimitated the Russian Afghan boundary, had marched from Nushki in 1884 by the route shown in the small sketch-map to the Helmand river *viâ* Kani and Galichah, and a portion of that mission had also returned by much the same route in

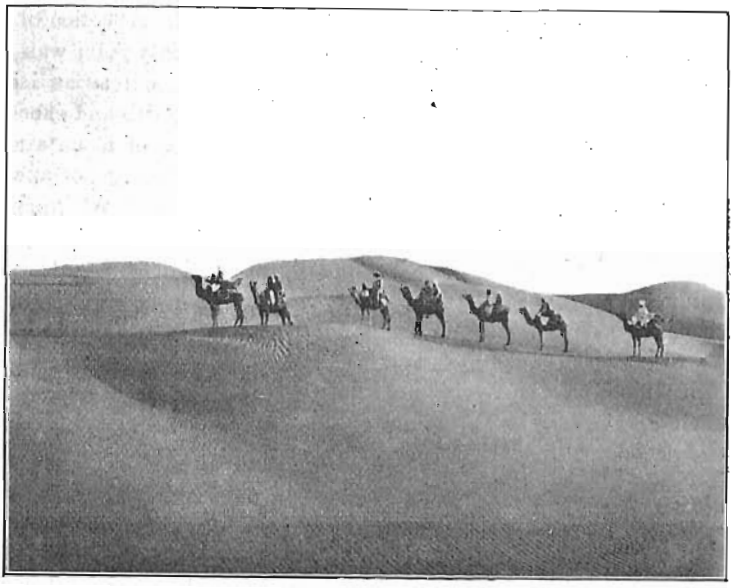
1885.* We had, therefore, information not altogether of a reassuring nature of that particular route; but on both the former occasions the journey had been done in the winter months, and it was possible, as we indeed sometimes found to be the case, that such information was not to be relied upon as applicable in the hot weather. Regarding the country west of the route taken by that mission, we had little or no information, as the greater portion of the actual country the boundary-line runs through had never before been traversed by Europeans. We had supplied ourselves with a large number of leather skins for carrying water, and took every other precaution we could think of for meeting the difficulties before us. We took with us, among other things, two Norton tube wells for boring for water. We had engaged a large number of the riding-camels of the country, and our intention was to provide a mount for all the footmen of our party. These camels, called "jambazes," are a breed of light camels, which, though not nearly so good as regular riding-camels, are under favourable circumstances able to carry two men or one man and a small load, and travel long distances in the day at a moderately fast pace. Owing to the continued drought having dried up all the grazing food and vegetation generally to be found in the country, these jambazes, we found, were for the most part not only unable to carry a single man at a fair pace, but had to be dragged along by their nose-ropes unloaded at a slow walk. To all intents and purposes they were practically useless, at any rate for the first two months of our journey. Later on, on nearing Persia, we found more vegetation for them, and they rallied sufficiently to give us some slight assistance on the way home. The mortality among them and our baggage camels in the desert was very great, and often gave us great cause of serious anxiety.

Our boundary work prevented our strictly following the route taken by the Afghan Boundary Commission of 1884, and we made our way across the desert to Robat as best we could to suit the exigencies of boundary work, marching from one set of known wells to another. As a rule we used to find, on arrival, the wells either filled up with sand or full of a filthy black odoriferous liquid, which had to be first emptied out. However, by digging wells close by existing ones, we used to find water at a moderate depth of from 6 to 10 feet. Chemical analysis often showed this water to be anything but desirable for drinking purposes; but we had to take what we could get, and be thankful. I may as well say here that we made many attempts to use our Norton tube wells, but never with success, as the tubes and pump invariably got choked with fine sand, which prevented them drawing up water.

Let me say a few words about the desert, from Nushki to Robat.

* Surgeon-Major O. T. Duke had also left on record some interesting and valuable information of the country between Nushki and Chagai, collected many years ago when he was a political officer in Baluchistan.

Somehow one generally connects the word "desert" with a flat level country, but it is obviously wrong to suppose that a desert consists of only plains. From Nushki to Chagai we do find a vast level plain, and a plain, moreover, of alluvial soil. You will see that all the drainage from the mountainous country to the east of it, as far as Quetta and Peshin, flows out into this plain by the Lora and other rivers, and that these rivers find their terminus in the Lora Hamun. In flood-time this Hamun is a wide sheet of shallow water, but it soon evaporates, and for most part of the year is like it was when we saw it, a large sheet of dry salt. In old days this whole plain, including all the flat Shorawak plain, must have been a huge lake, to account for all this



MARCHING IN SANDHILLS.

vast expanse of level alluvial soil. All along the north of it stretches the wide sand desert called Registan, a vast sea of billows and billows of sand upwards of 200 feet high, which is slowly but surely advancing year by year, and burying the flat alluvial plains south and east of them. This wilderness of sand stretches northwards as far as the Helmand.

You find on the level plains stunted shrubs of sorts, and all over the sandy portions abundance of a species of tamarisk known as the white tamarisk, and called by the natives taghaz. It grows to some size, but always looks a bleak, starving, neglected sort of tree. It assumes a weird and ghost-like appearance in the moonlight, and somehow always seems to impress a sad, mute protest at the howling sandy wilderness around it.

West of Chagai the character of the desert changes; instead of plains we have lofty ranges of desert mountains, upwards of 8000 feet high, and stretching westwards for some hundred miles. North again of these, as far as the Helmand, lie deserts of sandhills interspersed with flat plains of black gravel.

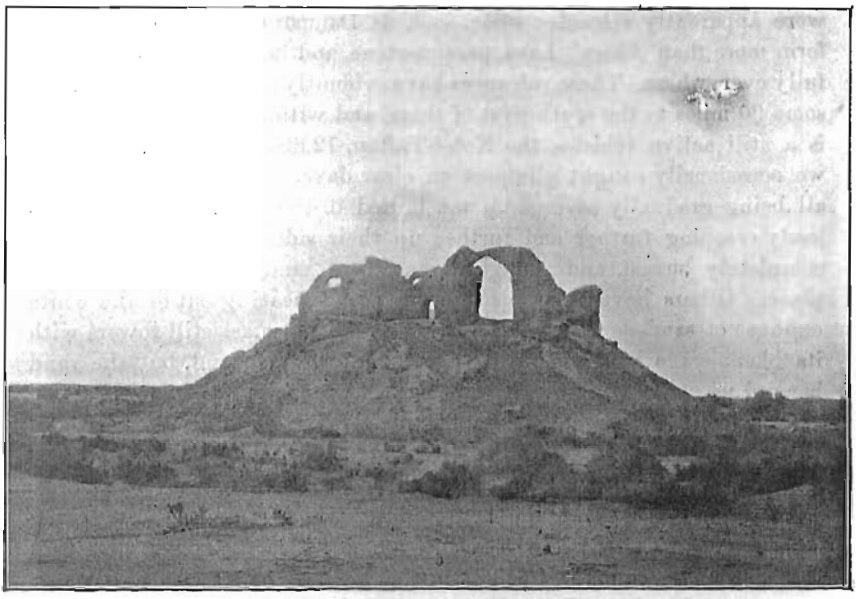
Briefly speaking, we marched along the southern fringe of the sandy Registan desert to the foot of the massive range of mountains west of Chagai. As one first approaches these mountains from the east, they stand out in a grand, high, rugged black mass with jagged peaks, several of which are over 7000 feet high. Crossing the level plains towards them, one cannot fail to be struck with the likeness the scene presents to a mountainous sea-coast as seen from a few miles out at sea on a clear calm day. The mirages which produce the reflection of the black cliffs beyond on long wide stretches of seemingly calm water at their base, with here and there a black rock standing out as an island in the watery expanse, render the similarity very life-like and effective. The lava and other volcanic rocks of which this mass of mountains is formed, lead to the conclusion that we have here the remains of ancient extinct volcanoes. These mountains are, for the most part, very inaccessible, and abound in ibex and oorial, or wild sheep.

Working through the Chagai range, we reached Robat on March 21. Our camels by now were getting very knocked up, not so much from heavy work as from want of food, and the mortality among them had given us cause for much anxiety. The abundant camel-grazing we had been led to expect by every authority who had previously reported on this country had proved a sad failure, as the land was suffering from a severe prolonged drought. All the vegetation was dried up, and even the taghaz, or white tamarisk, which grows all over the country, was dried up even more than usual, and useless as camel food. The warmth of spring had as yet failed to renovate the parched vegetation, but had succeeded in doing something else less useful and pleasant, *i.e.* in bringing out in vast numbers snakes, lizards, spiders, and scorpions of every kind. We used to secure large numbers of specimens daily. These and the ibex and the wild hill sheep appeared to be the only living inhabitants of the country. The few natives of these parts, whether from fear of strangers or from absence of food for their flocks, had fled and deserted the country. We had scoured the country round for miles to find natives, in order to procure sheep and goats from them for food, but without success. This was not reassuring, more especially as we knew that at Robat the real difficulties of the country were only beginning.

As I said before, the Afghan Boundary Commission had traversed the desert as far as Robat in 1884, and the adventurous traveller, Captain Christie, had used much the same route as that mission as far back as 1810. The only two Europeans, however, who had ever visited

the deserts west of Robat, were the late Sir Charles MacGregor and Captain Lockwood, who got as far as Godar-i-Shah in the cold weather of 1877, by the route shown in the hand-map issued to-night. The information they then obtained was the only source of reliable information we had to go upon, and it was a serious question whether we would find water in the places where they had found it to exist nineteen years before.

Beyond Robat the desert becomes practically almost a waterless one, and we found that it would be suicidal to attempt to take on our large camps with such feeble camels beyond that place. The British main camp remained at Robat, where there was a good supply of spring water; and the Afghan main camp withdrew to the Helmand river,



RUIN AT GODAR-I-SHAH.

while the Afghan commissioner and myself proceeded onwards along the boundary with a small party of picked men and animals. Our party consisted of Dr. Maynard, Mr. Tate, and myself, with a camp of some hundred and fifty men and two hundred camels. The Afghan party came to about half those numbers. We left Robat on March 26. From near Robat the boundary-line runs for nearly 200 miles in an absolutely waterless desert, without water on or near it. We therefore had to make wide *détours* to obtain water, and had to march, on occasions, from 50 to 70 miles from one watering-place to the next. This meant carrying a water-supply for two or three days for our whole camp with us. The camels, poor creatures, on these occasions had to do without. Even at the watering-places we often found the

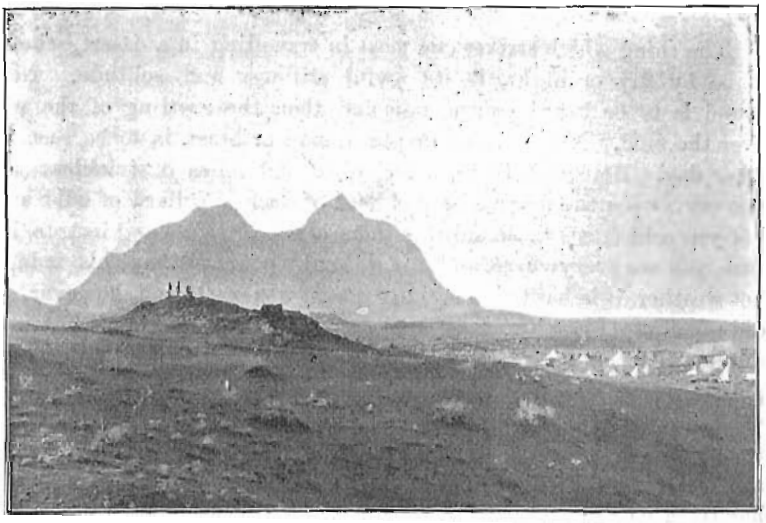
supply, after much hard work in digging new wells, very scanty. It would sometimes take the whole day to water our camp, as the small wells soon were emptied, and took a long time to fill up again. At night the water-skins for carrying on with us used to be filled, and it sometimes took two or three nights to fill up all that were required for the next waterless stage.

Marching *viâ* Darband and Amir Chah, we kept to the north of the Koh-i-Sultan, Damodim, and other mountain ranges. At times our journey lay through wide open level plains covered with black gravel, at others we floundered our weary way through broad expanses of deep sandhills which, near Amir Chah and other places, assumed the proportions of formidable sand-mountains. All the mountains we passed were apparently volcanic; some, such as Damodim, retain their crater form more than others. Lava, pumice-stone, and lava ash abound plentifully everywhere. These volcanoes have evidently long been inactive, but some 90 miles to the south-west of them, and within the Persian border, is a still active volcano, the Koh-i-Taftan, 12,600 feet high, of which we occasionally caught glimpses on clear days. These mountains are all being gradually covered up and buried in the sand, which is relentlessly creeping further and further up their sides. Many are already completely buried, and a high mountain of sand marks their burial-place. Others have their black peaks just appearing out of the white expanse of sand-slopes. Here and there a loftier mass still towers with its black crags high above the devouring waste around, but the sand banked up on their sides in places sometimes 1000 or 2000 feet above the level of their base, foretells a similar fate in store for them. The general effect of the scene they present is weird and unnatural in the extreme.

We experienced great difficulty from want of guides. Those few we had were not all good. It is hard to realize the difficulty of finding one's way in a sandy desert even with experienced guides. Even in the vast open stretches of flat plain the same difficulty exists; mirages appear and lure one off the direction one should follow. It is not uncommon for a guide to sit down on the march and refuse to go a foot further, saying he sees nothing but water and trees all round, and that his head is spinning round. At another time a sand-storm may get up, and earth and sky become one moving mass of flying sand. It fares ill at such times with any one who struggle even a few yards from the line of march. Five minutes of a sand-storm would obliterate the deep tracks of an army corps. Some of our party had narrow escapes. On one occasion three of our men were lost in a sand-storm. Two were found in a critical condition after wandering about for two days without water, and the third was found after being three days without food. At another time one of our native surveyors, with a party of seven men, failed to find our camp, and started off in a wrong direction, and their guide deserted them. They fortunately hit upon water, and killed one

of their camels for food, but had to live on leaves and roots for five days before they found us again.

The heat had by this time become very severe. The thermometer used to record up to 116° Fahr. inside our tents, and our solar radiation thermometer used to register outside on cloudless days a sun-heat of 205° Fahr. by nine o'clock in the morning. It was not made to register higher than that, or we might have obtained still higher records. As it was, it used to register in places a temperature in the sun equal to that of boiling water at the same place. At any rate, we found it quite hot enough for ordinary comfort, and the heat, combined with a strong hot wind and sand-storm, often made rest during the daytime impossible.



ROBAT, WITH THE MABITE DOKH AND MOUNT.

To those travellers who are tired of the cold of the arctic regions or the damp swamps of Africa, I can thoroughly recommend the genial dry warmth of summer in these deserts as a pleasing change. Owing to the heat, we always had, of course, to make our marches at night. We used to strike camp about sunset, and as a general rule march on by moonlight or starlight all night, arriving at our next halting-place before light in the early morning. At other times, should a sand-storm get up, or the night be an exceptionally dark one, we used to have to come to a stop and lie down wherever we happened to be, until either the moon rose or the day broke, and we could see sufficiently to pick our way. On those occasions we used sometimes to be overtaken by the light and heat of the following day, and then the want of water used to be cruelly felt. On one occasion I remember we got, on a dark night, into a labyrinth of deep ravines, and, after stumbling about

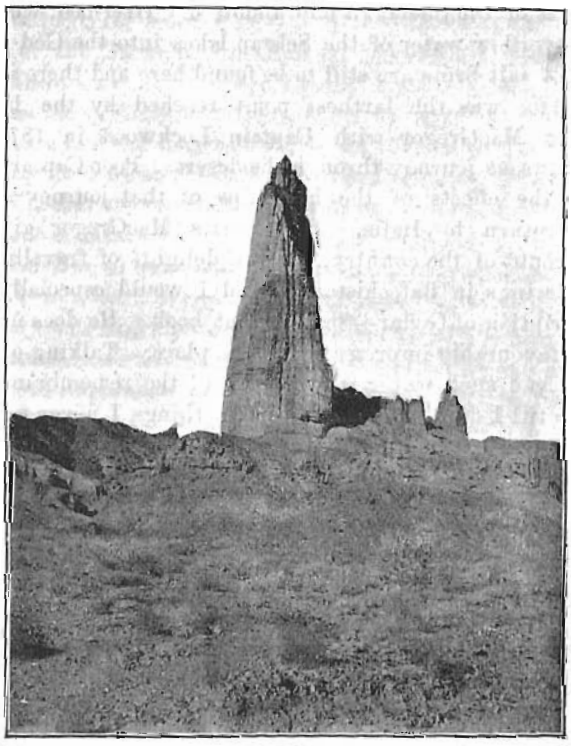
nearly all night with incompetent guides, found ourselves at daylight near a place we thought we had passed early the evening before. We did not reach water till the afternoon, and did not get to our intended halting-place till the second morning. Such are the delights of night-marching in unknown country. With a long straggling line of men and transport animals like ours, many precautions had, of course, to be taken to prevent those behind losing their way. Beacon fires used to be lit wherever fuel was available on the march, and a strong rear-guard formed to see that no men or animals were left behind on the road. No amount of severity sufficed to prevent men falling down asleep on the road. Fatigue and drowsiness obliterated all thought of punishment and all fear of the fate that this inhospitable country metes out to lost stragglers.

The thing which strikes one most in travelling in a desert, whether it be by day or night, is its awful stillness and solitude. Not a sound is to be heard, except now and then the rustling of the wind over the sand. Not a living creature, man or beast, is to be seen day after day. Here and there, after miles and miles of trackless sand, you come upon the footmarks of a herd of deer or a herd of wild asses, but you seldom see those animals themselves. Snakes and lizards, it is true, you see everywhere, and a more snaky country than this is in the hot weather, it is hard to imagine. There was one sound, however, that did sometimes break the dead stillness of a night march, and that in an unpleasant manner—that was the deep hiss of the horned viper. This pleasing reptile, of which we came across many, lies during the day with only its head showing above the sand, and it is almost impossible to distinguish it from the sand. At night, however, it used to sit up and hiss loudly whenever any one approached it. If we had a lantern handy, or could set fire to a bush to enable us to find the beast, we used to dismount and kill it; but at other times we all used to make a wide *détour*, and leave it hissing a proud defiance at us as we passed away in the distance.

Some of our party had very narrow escapes from venomous snakes, but fortunately we had no casualties from that cause. One night I saw a venomous snake, an *Echis carinata*, actually strike one of my men on the hand as he was pulling up a small bush to throw on a beacon fire. Luckily, the shot was a bad one, for the snake's head glanced off his hand sideways without the fangs piercing the man's skin. On another occasion, one early morning a very fine specimen of the same viper came out of a small hole in the ground over which I had just been sleeping. A few minutes before he might have caught me napping, but as it was he got up too late, and went to join our zoological collection. We generally looked for a clear spot to lie down and sleep on, but as often as not we were too sleepy and tired on our night marches to bother much about it. One night, as he threw himself

down to sleep on the sand not very far from me, Dr. Maynard made some remark about the ground sounding curiously hollow, and in fact kept me awake, as I thought, unnecessarily long propounding theories for this phenomenon. His theories, it turned out, were wrong, and he didn't solve the question until after he had gone to sleep. When I woke next morning he was gone. It appears he had gone to sleep on a huge anthill, and was almost eaten alive.

Striking from Amir Chah across the desert westwards, we reached the Saindak and Kacha range of mountains, which run in a long line



THE NEZA-I-SULTAN.

north-west and south-east along the Persian border. Here we found abundant supplies of water, and here, too, we met a few natives of the country, and got some meat from them, which we were badly in want of. We had up to this seen only three natives of the country for a space of nine weeks. Boundary work, however, took us down into the desert again to Godar-i-Shah, at the western extremity of the God-i-zirreh. The God-i-zirreh is a large lake of clear, deep blue water, some 25 miles long and 5 miles wide, standing in the midst of a wide margin of solid salt. It used to be fed by flood-water from the

river Helmand, but, from the Helmand having dug out a deeper bed for itself, or from other causes, it now seldom receives any replenishment. The last time it received any water from the Helmand is, as far as I can ascertain, as long ago as 1880, *i.e.* seventeen years ago. All the drainage which, in the natural course of events, should flow into it from the mountain ranges south of it, is intercepted and swallowed up by the wide barriers of sand lying in the way, and thus never reaches it. Its water is now so salt that even waterfowl avoid it. Godar-i-Shah, Gumbaz-i-Shah, and Kila-i-Maksud, near the west extremity of this lake, are uninhabited places, marked by the site of old ruins close to each other, on the banks of the Shelag, a now almost dry river-bed, which used to bring the overflow water of the Seistan lakes into the God-i-zirreh. A few pools of salt brine are still to be found here and there in its bed.

This place was the farthest point reached by the late General Sir Charles MacGregor with Captain Lockwood in 1877, after a long adventurous journey through the desert. Poor Captain Lockwood died from the effects of the hardships of that journey a few days after his return to India. Sir Charles MacGregor gives a very graphic account of the country, and the delights of travelling in it, in his 'Wanderings in Balochistan.' And I would especially refer you to his description of Godar-i-Shah in that book. He does not appear to have been favourably impressed with the place. Talking of the water, he says, "And such water it was. Ugh! the remembrance of it will stick to me till I die. There are certain things I never forget: one is a particular powder an aunt used to give me at Portobello when a child, and I am sure another will be this water.

* * * * * *

"If any should wish to save themselves the trouble of going to Godar-i-Shah to fetch it, I think I could give a receipt which would taste something like it. Take, then, the first nasty-looking water you can find. Mix salt with it till you make it taste as nasty as it looks; then impregnate it with gas from a London street lamp, and add a little bilge water; shake vigorously, and it is ready for use. (N.B.—The test of its being sufficiently nauseous is, that after drinking you cannot even speak for a minute or two.)"

Well, that is Sir Charles MacGregor's opinion of the Godar-i-Shah water.

We spent upwards of a week in this pleasing place, and had ample experience of this water, which fully bore out that opinion, but I am bound to say it was not nearly so bad as much we found elsewhere.

It is hard to realize nowadays, on seeing this desert waste at Godar-i-Shah, that it marks the site of extensive and flourishing civilization in ancient times. All who have ever travelled along the Helmand river have recorded their astonishment at the almost endless stretches of old ruins along the banks of that river. These ruins extend all over

Seistan, and here right away down at the very south of Seistan, at Godar-i-Shah, we still find them. They mark the remains of old flourishing towns and cities of past times, and, together with the numerous traces of old canals leading from the Helmand river, prove the existence in some past age of extensive civilization and of a very large population. Who built those cities, and who cultivated this once rich country, one cannot now say. The past history of the country is buried in obscurity. Several have offered opinions on the subject, but only to be contradicted by others. We know that Alexander the Great marched through this country, and found there cities and a civilized people. Zirreh is said to be the modern form of the old name Zarenj, which was the capital of the Zarangae or Darangae tribe mentioned by Arrian. Persian tradition has, again, made Seistan famous as the home of the great Persian hero Rustam. We also know that the Kayani kings ruled in Seistan and the Helmand valley until their final overthrow and extirpation by the Persian Nadir Shah at the beginning of the eighteenth century. Whether the old ruins now existing mark the towns mentioned by the writers of Alexander's times, whether they are connected with the age of Rustam, or as recent only as the latter days of the Kayani kingdom, it is now hard to say. We must leave it to archæologists to decide. They will find this country well worth studying, and it is to be hoped that at some future date careful archæological investigation, which has been impossible up to now, will throw light on the history of what must have been a numerous and civilized people.

Since Sir Charles MacGregor's visit, Godar-i-Shah has been visited by Captain Hon. H. D. Napier and Mr. Merk, C.S.I., but both came there from the Persian side.

We were not sorry to leave Godar-i-Shah, as the heat there was very severe. Proceeding westwards, we reached the foot of the Koh-i-Malik Siah range, and on April 16—a red-letter day in our mission records—we erected our last boundary pillar on the top of Koh-i-Malik Siah, a peak 5500 feet above sea-level, to mark the end of our long boundary-line between Afghanistan and Baluchistan. From this point northwards runs the boundary settled between Persia and Afghanistan by Sir Frederick Goldsmid; and from this same point southwards runs the boundary-line between Persia and Baluchistan, just laid down by Colonel Holdich. The massive stone cairn, some 20 feet high, which we built at the top of this mountain, now marks the point "where three empires meet," for here, at one point, British, Persian, and Afghan territories join. As soon as our camp, both men and animals, had had a few days' rest, and had recruited their strength with the good water we found there and with the food supplies we had obtained from Persian Seistan, we started homewards. The Afghans had had enough of the desert, and preferred to strike across Afghan Seistan to the Helmand, and thence along that river, while we returned to Robat across the desert by much

the same route we had come. We agreed to meet each other once more to draw up final deeds, etc., at Robat on May 5.

On the return journey we took the opportunity of exploring the Koh-i-Sultan range, which we had passed on the south of our route on coming. On passing as we did to the north of this range, we were greatly struck by the queer, grotesque shapes of its numerous sharp peaks. And more especially by the appearance of what, as we saw it from a distance, looked like a huge masonry pillar erected on the crest line of the range. This pillar is known as the Neza-i-Sultan, *i.e.* the spear of Sultan. Sir Charles MacGregor saw these mountains from a distance in 1877, and he speaks of them as the oddest-looking mountains he had ever seen. He was greatly struck with the appearance of the Neza-i-Sultan, but neither he nor any other European had ever yet been close up to it. On entering the range our trouble was well rewarded, for a more extraordinary mass of mountains it is almost impossible to conceive. As we rode along in the bright moonlight, we saw high pointed pinnacles and minarets all round us, and here and there steep masses of conglomerate, which formed the peaks, looked exactly like old Gothic cathedrals and churches. Nor did this resemblance fade away in the daylight. The Neza-i-Sultan we found a truly marvellous feature. It is a perpendicular column of hard conglomerate, with straight precipitous sides. The fissures made by rain and weather action down its sides give it a fluted appearance from a distance. We expected to find a high natural pillar, but were not prepared for the stupendous size of the reality. Judging from its width at the base, which is over 100 yards in diameter, the height must be no less than from 500 to 800 feet. You can, therefore, realize the effect of this gigantic column when seen from below. The name Neza-i-Sultan means the spear of Sultan. This Sultan, who also has given his name to the whole range, is an ancient mythical celebrity who is said to have been buried in the vicinity. His full name is Sultan-i-Pir-Khaisar, and he is the patron saint of Baluch robbers. This may account for the Koh-i-Sultan having a very bad reputation as a robber resort. These mountains abound in the assafœtida plant, and in the summer months traders come in numbers from Afghanistan to collect it.

Well, I must hurry on. We reached our main camp at Robat on May 1, and were glad to find them all well and flourishing. We had been nearly six weeks away from them, and, as we had not been able to keep up communication with each other during that time, we found a most welcome supply of letters and news awaiting us. On May 5 the Afghan Commission arrived, and by May 14 our final agreements and maps were prepared and signed, and we were able at last to start homewards. The Afghans returned to the Helmand *en route* for Kandahar, while we followed, as far as Nushki, much the same route as that by which we had come. It was a trying journey, as the heat was very

severe, registering 116° Fahr. in our tents. We marched as before, always at night, and now were able to get little or no rest by day, for the "Bad-i-sad-o-bistroz," *i.e.* the wind of 120 days, had now sprung up, and blew with hurricane violence day after day the whole day long, blowing down our tents, and smothering us in sand. This charming wind gets up every year about May, and blows without ceasing from the north-west for four months. While it lasts, it makes life along the Helmand valley and the deserts on either side a perfect purgatory. Right glad were we to at last reach the edge of the desert at Nushki, and ascend out of the hot wind-swept plain into the cool, refreshing air of the high mountains west of Quetta. We reached Quetta safely on May 29, 1896, and there our troubles ceased.

Boundary delimitation and demarcation work was the sole object and aim of the mission whose wanderings I have now described, but in the course of it our energetic survey officers, *i.e.* Captain R. J. Mackenzie, R.E., during the first year, and G. P. Tate, Esq., during the second year of the mission, and their staff, besides carrying out the actual survey work required for boundary delimitation purposes, took excellent advantage of the opportunities afforded of making a careful survey of the whole country through which we passed, on a scale of 2 miles and 4 miles to the inch. I have not the actual figures to refer to, but I believe considerably over 30,000 square miles of country were thus carefully surveyed, much of which was, to all intents and purposes, new country. Much valuable ethnological information was collected, and our scientific work included careful meteorological records, and also large zoological, geological, and botanical collections. Our zoological collection, thanks to the energy of Surgeon-Captain Maynard, is a very large one, including several thousand specimens. As might be expected, from the countless reptiles the desert abounds in, our zoological collection was largely of reptiles. Among them are many rare species and many quite new to science. Our old friend, the horned viper,* turned out to be not only a new species, but a new genus. The zoological and other collections are now being carefully worked out by the officers of the Calcutta and British museums. Besides a few taken by myself, the photographs with which this paper has been illustrated were taken by the following gentlemen, to whom I am much indebted for the loan of them, *i.e.* Lieut. R. A. E. Benn, 5th Bombay Cavalry, for those of the country between Domandi and Chaman, and G. P. Tate, Esq., for those of the country between Chaman and Persia.†

---

* This snake has been named the *Eristicophis Macmahonii*.

† May I be permitted to mention my Dachshund Donnie, who figured in several of the photographs with which the paper was illustrated. He not only accompanied his owner throughout the wanderings of the Baluch-Afghan Boundary Commission, but also accompanied him in 1893 to Cabul with the Durand mission. He has traversed most of Baluchistan, and almost every portion of India.

SKETCH MAP OF BALUCHISTAN and its AFGHAN & PERSIAN BORDERS. 1896.

To accompany the paper by Capt^{n} A.H.Mc Mahon. and Colonel T.H.Holdich, R.E, C.B.

Capt^{n} Christie's Route 1810.
General Sir Charles Macgregor's Route 1877.
Afghan Boundary Commission 1884-85.
Line of Earthquake Crack.

Scale of Miles.

0 50 100

1: 3,000,000 or 47·3 miles = 1 Inch.

F.S.Weller F.R.G.S.

Published by the Royal Geographical Society.

Section of boundary line between Afghanistan and Baluchistan.